

TRANSACTIONS

OF THE

American Society of Civil Engineers

INDEX

VOLUME LXXVIII

SUBJECT INDEX, PAGE 1584

AUTHOR INDEX, PAGE 1592

Titles of papers are in quotation marks when given with the author's name.

VOLUME LXXVIII

SUBJECT INDEX

ARCHES.

"The Design and Construction of Four Reinforced Concrete Viaducts at Fort Worth, Texas." S. W. Bowen. (With Discussion.) 1206.

BEAMS.

"Proof of an Assumption in the Theory of Concrete —." Ralph E. Goodwin. 1263. Discussion: J. P. J. Williams. 1267.

Stresses in wedge-shaped reinforced concrete —. Discussion by A. C. Janni, and William Cain. 734.

BEARINGS.

Thrust — in electric plant of Alabama Power Company. 1443, 1553, 1578.

BRIDGES.

Table giving dimensions of the principal transportation ^{Bridges} —. 255.

Table giving principal — of the world over waters frequented by sea-going vessels. 258.

"The Design and Construction of Four Reinforced Concrete Viaducts at Fort Worth, Texas." S. W. Bowen. (With Discussion.) 1206.

"The Possibilities in Bridge Construction by the Use of High-Alloy Steels." J. A. L. Waddell. 1. Discussion: M. J. Butler, Albert Lucius, Henry W. Hodge, Charles Evan Fowler, L. J. Le Conte, N. Petinot, Leon S. Moisseiff, F. W. Skinner, E. L. Corthell, W. H. Warren, David A. Molitor, *Sir* Bradford Leslie, John C. Fergusson, V. E. de B. de Broë, M. Séjourné, George L. Norris, and J. W. Richards. 39.

CABLEWAYS.

— used in construction of dam and power plant, Lock 12 Development, Alabama Power Company. 1467, 1566.

CAMPS.

Contractors' —, Lock 12 Development, Alabama Power Company. 1462.

CAST IRON.

"External Corrosion of — Pipe." Marshall R. Pugh. (With Discussion.) 806.

CHARTS.

See GRAPHICAL CHARTS.

CHEMISTRY.

— of the corrosion of cast-iron pipe. 806.

COFFER-DAMS.

— for construction of main dam, Lock 12 Development, Alabama Power Company. 1482.

COLUMNS.

"Report on a Series of Tests on Concrete — Reinforced with a Spiral of Steel." C. G. Wrentmore, Hugh Brodie, and C. O. Carey. (With Discussion.) 97.

CONCRETE.

"Huacal Dam, Sonora, Mexico" (— arch dam). H. Hawgood. (With Discussion.) 564.

Practical examples of arch dams: Salmon Creek and Lake Spaulding Dams. 708.

"Reinforced — Docks: Foreign and American Structures. Failures, Costs, and General Considerations." Harrison S. Taft. (With Discussion.) 1058.

CONTRACTORS' PLANT.

Layout of —, Lock 12 Development, Alabama Power Company. 1467.

CORROSION AND PROTECTION OF METALS.

"External Corrosion of Cast-Iron Pipe." Marshall R. Pugh. (With Discussion.) 806.

CURVES.

Relation between curvature and gauge of railroads. — 320.

DAMS.

Cost of Huacal Concrete Arch Dam. 599.

Description of construction of the Hinckston Run Dam, especially the grouting. 520.

Description of dam, Lock 12 Development, Alabama Power Company. 1432, 1452.

"Grouted Cut-Off for the Estacada Dam." Harold A. Rands. 447. Discussion: S. Howard Rippey, S. C. Hulse, Frank R. Fisher, H. L. Coburn, William H. Cushman, V. H. Hewes, Lazarus White, Fred-eric V. Abbot, J. F. Ramsbotham, Harrison Souder, and Charles H. Paul. 483.

"Huacal Dam, Sonora, Mexico" (Concrete arch dam). H. Hawgood. 564. Discussion: Charles W. Sherman, M. M. O'Shaughnessy, L. R. Jorgensen, and L. J. Mensch. 602.

Practical examples of arch —: Salmon Creek and Lake Spaulding —. 708.

Tables giving characteristics of constructed arch —. 566, 603, 627.

"The Constant-Angle Arch Dam." Lars R. Jorgensen. 685. Dis-cussion: D. C. Henny, Edward Wegmann, Orrin L. Brodie, and R. G. Clifford. 722.

DIAGRAMS.

See **GRAPHICAL CHARTS.**

DOCKS.

"Reinforced Concrete — : Foreign and American Structures. Failures Costs, and General Considerations." Harrison S. Taft. (With Discussion.) 1058.

DRAINAGE.

"A Method of Determining Storm-Water Run-Off." Charles B. Buerger, 1139. Discussion: R. C. Strachan, Kenneth Allen, W. W. Horner. Charles W. Sherman, Robert E. Horton, C. E. Grunsky, Samuel D. Bleich, Charles E. Gregory, Samuel A. Greeley, W. E. Fuller, and George W. Fuller. 1165.

ELECTRIC POWER.

"The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." E. L. Sayers and A. C. Polk. (With Discussion.) 1409.

ELECTRIC TRANSMISSION.

See **POWER TRANSMISSION.**

EVAPORATION.

— from water and ground surfaces in experiments at Owens Valley, California. 176.

EXTENSOMETERS.

Description of —. 104.

FOUNDATIONS.

"Grouted Cut-Off for the Estacada Dam." Harold A. Rands. (With Discussion.) 447.

GAUGE.

Comparison of cost of construction of railroads with various gauges. 353.
Comparison of cost of operation on broad, medium, and narrow — railroads. 362.

Cost of converting meter to medium or broad —. 358.

"The — of Railways, with Particular Reference to Those of Southern South America." F. Lavis. 312. Discussion: Philip W. Henry, James J. Hill, T. A. Corry, Frank Foster, H. Deane, G. F. F. Osborne, and James Alexander Smith. 424.

GEOGRAPHY.

Southern South America : General description of its topography, physical characteristics, business conditions, and the development and present situation of its railways. 403.

GEOLOGY.

— of underground reservoirs. 151.

GRAPHICAL CHARTS.

- "Nomographic Solutions for Formulas of Various Types." R. C. Strachan. 1359. Discussion: Allen Hazen, Carl B. Andrews, J. O. Eckersley, Paul C. Nugent, W. M. Eliot, and F. W. Green. 1381.

GROUND-WATER.

- "The Determination of Safe Yield of Underground Reservoirs of the Closed-Basin Type." Charles H. Lee. 148. Discussion: James Owen, G. E. P. Smith, O. E. Meinzer, Kenneth Allen, and Robert E. Horton. 219.

GROUTING.

- Description of construction of the Hinckston Run Dam, especially the —. 520.
"Grouted Cut-Off for the Estacada Dam." Harold A. Rands. (With Discussion.) 447.

HIGHWAYS.

- "Subaqueous Highway Tunnels." George Duncan Snyder. (With Discussion.) 252.

See also **PAVEMENTS: ROADS.**

LAW.

- "Some Principles Relating to the Administration of Streams." Clarence T. Johnston. (With Discussion.) 630.

LOCOMOTIVES.

See **ROLLING STOCK.**

MATHEMATICS.

- "Nomographic Solutions for Formulas of Various Types." R. C. Strachan. (With Discussion.) 1359.

METALLURGY.

- "The Possibilities in Bridge Construction by the Use of High-Alloy Steels." J. A. L. Waddell. (With Discussion.) 1.

NOMOGRAPHS.

- "Nomographic Solutions for Formulas of Various Types." R. C. Strachan. (With Discussion.) 1359.

PILES.

- Bending of concrete —. 1062.
Concrete — used in the construction of a pier. 1128.

PIPE.

- Corrosion and protection of steel —. 857.
"External Corrosion of Cast-Iron —." Marshall R. Pugh. 806. Discussion: C. P. Bowie, Kenneth Allen, William W. Brush, Samuel Tobias Wagner, R. C. Kellogg, A. D. Flinn, William J. Boucher, George M. Purver, W. J. E. Binnie, and Leonard S. Doten. 857.

- "Submerged — Work at Portland, Oregon." D. D. Clarke. (With Discussion.) 1305.

PIPE LINES.

- Pipe line from Huacal Dam, Sonora, Mexico, and test of its capacity. 596.

- "Submerged Pipe Work at Portland, Oregon." D. D. Clarke. 1305.
Discussion: F. M. Randlett, Ben S. Morrow, Clemens Herschel, Kenneth Allen, R. C. Kellogg, Thomas H. Wiggin, W. E. Spear, J. P. Hogan, W. W. Brush, L. J. Le Conte, C. D. Ward, and W. R. Phillips. 1324.

- "The Construction of the Klondike Pipe Line." W. W. Edwards. 547.
Discussion: G. B. Pillsbury and Walter S. Wheeler. 560.

POWER HOUSES.

See **POWER PLANTS.**

POWER PLANTS.

- "The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." E. L. Sayers and A. C. Polk. (With Discussion.) 1409.

POWER TRANSMISSION.

- "The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." E. L. Sayers and A. C. Polk. (With Discussion.) 1409.

PRECIPITATION.

See **RAINFALL.**

QUARRYING.

- operations, Lock 12 Development, Alabama Power Company. 1506.

RAILROADS.

- "The Gauge of Railways, with Particular Reference to Those of Southern South America." F. Lavis. (With Discussion.) 312.

RAINFALL.

- "A Method of Determining Storm-Water Run-Off." Charles B. Buerger. (With Discussion.) 1139.
— at Nacozari, Mexico. 571.
— in Owens Valley, California. 164.

REINFORCED CONCRETE.

- "Proof of an Assumption in the Theory of Concrete Beams." Ralph E. Goodwin. (With Discussion.) 1263.
"— Docks: Foreign and American Structures. Failures, Costs, and General Considerations." Harrison S. Taft. 1058. Discussion: J. H. H. Muirhead, W. J. Barney, Eugene W. Stern, R. D. Coombs, Joel J. Pemoff, William Goldsmith, DeWitt C. Webb, Joshua F. Ramsbotham, Chandler Davis, E. G. Walker, and W. J. Douglas. 1112.

- Reinforcement used in Huacal Concrete Arch Dam. 595.
"Report on a Series of Tests on Concrete Columns Reinforced with a Spiral of Steel." C. G. Wrentmore, Hugh Brodie, and C. O. Carey. 97. Discussion: Edward Godfrey, and A. W. Buel. 140.
Stresses in wedge-shaped — beams. Discussion by A. C. Janni, and William Cain. 734.
"The Design and Construction of Four — Viaducts at Fort Worth, Texas." S. W. Bowen. (With Discussion.) 1206.

RESERVOIRS.

- "The Determination of Safe Yield of Underground — of the Closed-Basin Type." Charles H. Lee. (With Discussion.) 148.

RIVERS.

- "Some Principles Relating to the Administration of Streams." Clarence T. Johnston. 630. Discussion: Herbert E. Bellamy, John H. Lewis, Robert E. Horton, and George P. Decker, 649.

ROLLING STOCK.

- in its relation to broad and narrow gauge. 330.

RUN-OFF.

- "A Method of Determining Storm-Water — ." Charles B. Buerger. (With Discussion.) 1139.

SCREENS.

- "The Clarification of Sewage by Fine — ." Kenneth Allen. (With Discussion.) 880.

SEWAGE DISPOSAL.

- Analysis of sewage at Gleiwitz screening plant. 910.
Brief bibliography of works relating to the clarification of sewage by fine screens. 952.
Tables relating to sewage treatment works and filtration statistics of German cities. 968.
"The Clarification of Sewage by Fine Screens." Kenneth Allen. 880. Discussion: G. Bertram de B. Kershaw, W. L. Stevenson, George C. Whipple, C. A. Jennings, G. Franze and Hermann Schaefer, George W. Fuller, J. X. Cohen, F. T. Robson, Alexander Potter, Charles E. Gregory, Rudolph Hering, J. H. Granbery, Langdon Pearse, L. C. Whitemore, Samuel A. Greeley, E. Kuichling, George T. Hammond, J. C. Riedel, David T. Pitkethly, William L. D'Olier, John H. Gregory, and George A. Soper, 954.

SEWERAGE.

- "A Method of Determining Storm-Water Run-Off." Charles B. Buerger. (With Discussion.) 1139.

SLABS.

- Stresses in wedge-shaped reinforced concrete beams. Discussion by A. C. Janni, and William Cain. 734.

SPILLWAY.

— of Huacal Dam, Sonora, Mexico. 579.

STEEL.

"The Possibilities in Bridge Construction by the Use of High-Alloy Steels." J. A. L. Waddell. (With Discussion.) 1.

STAND-PIPES.

"The Differential Surge Tank." Raymond D. Johnson. (With Discussion.) 760.

STREAM FLOW.

See **WATER, FLOW OF, IN OPEN CHANNELS.**

STREAMS.

See **RIVERS.**

SURGE TANKS.

"The Differential Surge Tank." Raymond D. Johnson. 760. Discussion: Roy Taylor, and D. L. Webster, 785.

TRAIN RESISTANCE.

— in its relation to broad and narrow gauge. 351.

TRANSPIRATION.

Loss of water caused by plants: Experiments at Owens Valley, California, and elsewhere. 193, 226.

TUNNELS.

General dimensions of the world's subaqueous highway —. 278.

"Subaqueous Highway —." George Duncan Snyder. 252. Discussion: J. V. Davies, and Duncan D. McBean, 306.

TURBINES.

See **WATER WHEELS.**

UNDERGROUND WATER.

See **GROUND-WATER.**

VIADUCTS.

"The Design and Construction of Four Reinforced Concrete — at Fort Worth, Texas." S. W. Bowen. 1206. Discussion: Carl Gayler, 1259.

WATER, FLOW OF, IN OPEN CHANNELS.

Stream flow data, Owens Valley, California. 167 *et seq.*

WATER LAWS.

"Some Principles Relating to the Administration of Streams." Clarence T. Johnston. (With Discussion.) 630.

WATER POWER.

"The Differential Surge Tank." Raymond D. Johnson. (With Discussion.) 760.

WATER WHEELS.

"Investigation of the Performance of a Reaction Turbine." R. L. Daugherty. 1270. Discussion: S. J. Zowski, H. Birchard Taylor, Daniel W. Mead, and R. C. Carpenter, 1288.

"The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." E. L. Sayers and A. C. Polk. (With Discussion.) 1409.

WATER POWER.

"The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." E. L. Sayers and A. C. Polk. 1409. Discussion: James H. Harlow, R. D. Coombs, Hugh L. Cooper, Heinrich Homberger, H. Birchard Taylor, Spencer Miller, W. E. Mitchell, and Gardner S. Williams, 1546.

WATER-WORKS.

"Submerged Pipe Work at Portland, Oregon." D. D. Clarke. (With Discussion.) 1305.

WHARVES.

"Reinforced Concrete Docks: Foreign and American Structures. Failures, Costs, and General Considerations." Harrison S. Taft. (With Discussion.) 1058.

AUTHOR INDEX

ABBOT, FREDERIC V.

Grouted cut-off for the Estacada Dam. 511.

ALLEN, KENNETH.

Determination of storm-water run-off. 1165.

External corrosion of cast iron pipe. 863.

Submerged pipe work, Portland, Ore. 1330.

"The Clarification of Sewage by Fine Screens." 880.

Yield of underground reservoirs. 239.

ANDREWS, CARL B.

Nomographic solutions for formulas. 1382.

BARNEY, W. J.

Reinforced concrete docks. 1113.

BELLAMY, HERBERT E.

Stream administration. 649.

BINNIE, W. J. E.

External corrosion of cast-iron pipe. 869.

BLEICH, SAMUEL D.

Determination of storm-water run-off. 1183.

BOUCHER, WILLIAM J.

External corrosion of cast-iron pipe. 868.

BOWEN, S. W.

"The Design and Construction of Four Reinforced Concrete Viaducts at Fort Worth, Texas." 1206.

BOWIE, C. P.

External corrosion of cast-iron pipe. 857.

BRODIE, HUGH.

"Report on a Series of Tests on Concrete Columns Reinforced with a Spiral of Steel." 97.

BRODIE, ORRIN L.

Constant-angle arch dam. 726.

BROË, V. E. de B. de.

High-alloy steels for bridges. 67.

BRUSH, WILLIAM W.

External corrosion of cast-iron pipe. 865.

Submerged pipe work, Portland, Ore. 1342.

- BUEL, A. W.**
Tests of reinforced concrete columns. 143.
- BUERGER, CHARLES B.**
"A Method of Determining Storm-Water Run-Off." 1139.
- BUTLER, M. J.**
High-alloy steels for bridges. 39.
- CAIN, WILLIAM.**
Stresses in wedge-shaped reinforced concrete beams. 740.
- CAREY, C. O.**
"Report on a Series of Tests on Concrete Columns Reinforced with a Spiral of Steel." 97.
- CARPENTER, R. C.**
Performance of a reaction turbine. 1299.
- CLARKE, D. D.**
"Submerged Pipe Work at Portland, Oregon." 1305.
- CLIFFORD, R. G.**
Constant-angle arch dam. 728.
- COBURN, H. L.**
Grouted cut-off for the Estacada Dam. 508.
- COHEN, J. X.**
Sewage clarification by fine screens. 979.
- COOMBS, R. D.**
Hydro-electric power development. 1547.
Reinforced concrete docks. 1116.
- COOPER, HUGH L.**
Hydro-electric power development. 1553.
- CORRY, T. A.**
Gauge of railways. 427.
- CORTHELL, E. L.**
High-alloy steels for bridges. 56.
- CUSHMAN, WILLIAM H.**
Grouted cut-off for the Estacada Dam. 508.
- DAUGHERTY, R. L.**
"Investigation of the Performance of a Reaction Turbine." 1270.
- DAVIES, J. V.**
Subaqueous highway tunnels. 306.
- DAVIS, CHANDLER.**
Reinforced concrete docks. 1120.
- DEANE, H.**
Gauge of railways. 432.

- DECKER, GEORGE P.**
Stream administration. 664.
- D'OLIER, WILLIAM L.**
Sewage clarification by fine screens. 1019.
- DOTEN, LEONARD S.**
External corrosion of cast-iron pipe. 871.
- DOUGLAS, W. J.**
Reinforced concrete docks. 1128.
- ECKERSLEY, J. O.**
Nomographic solutions for formulas. 1383.
- EDWARDS, W. W.**
"The Construction of the Klondike Pipe Line." 547.
- ELIOT, W. M.**
Nomographic solutions for formulas. 1393.
- FERGUSON, JOHN C.**
High-alloy steels for bridges. 65.
- FISHER, FRANK R.**
Grouted cut-off for the Estacada Dam. 506.
- FLINN, A. D.**
External corrosion of cast-iron pipe. 867.
- FOSTER, FRANK.**
Gauge of railways. 429.
- FOWLER, CHARLES EVAN.**
High-alloy steels for bridges. 43.
- FRANZE, G.**
Sewage clarification by fine screens. 976.
- FULLER, GEORGE W.**
Determination of storm-water run-off. 1198.
Sewage clarification by fine screens. 978.
- FULLER, W. E.**
Determination of storm-water run-off. 1193.
- GAYLER, CARL.**
Reinforced concrete viaducts. 1259.
- GODFREY, EDWARD.**
Tests of reinforced concrete columns. 140.
- GOLDSMITH, WILLIAM.**
Reinforced concrete docks. 1116.
- GOODWIN, RALPH E.**
"Proof of an Assumption in the Theory of Concrete Beams." 1263.

- GRANBERY, J. H.**
Sewage clarification by fine screens. 994.
- GREELEY, SAMUEL A.**
Determination of storm-water run-off. 1190.
Sewage clarification by fine screens. 1006.
- GREEN, F. W.**
Nomographic solutions for formulas. 1402.
- GREGORY, CHARLES E.**
Determination of storm-water run-off. 1187.
Sewage clarification by fine screens. 989.
- GREGORY, JOHN H.**
Sewage clarification by fine screens. 1031.
- GRUNSKY, C. E.**
Determination of storm-water run-off. 1178.
- HAMMOND, GEORGE T.**
Sewage clarification by fine screens. 1014.
- HARLOW, JAMES H.**
Hydro-electric power development. 1546.
- HAWGOOD, H.**
"Huacal Dam, Sonora, Mexico" (Concrete arch dam). 564.
- HAZEN, ALLEN.**
Nomographic solutions for formulas. 1381.
- HENNY, D. C.**
Constant-angle arch dam. 722.
- HENRY, PHILIP W.**
Gauge of railways. 424.
- HERING, RUDOLPH.**
Sewage clarification by fine screens. 991.
- HERSCHEL, CLEMENS.**
Submerged pipe work, Portland, Ore. 1328.
- HEWES, V. H.**
Grouted cut-off for the Estacada Dam. 509.
- HILL, JAMES J.**
Gauge of railways. 427.
- HODGE, HENRY W.**
High-alloy steels for bridges. 41.
- HOGAN, J. P.**
Submerged pipe work, Portland, Ore. 1340.

HOMBERGER, HEINRICH.

Hydro-electric power development. 1553.

HORNER, W. W.

Determination of storm-water run-off. 1167.

HORTON, ROBERT E.

Determination of storm-water run-off. 1177.

Stream administration. 659.

Yield of underground reservoirs. 243.

HULSE, S. C.

Grouted cut-off for the Estacada Dam. 500.

JANNI, A. C.

Stresses in wedge-shaped reinforced concrete beams. 734.

JENNINGS, C. A.

Sewage clarification by fine screens. 974.

JOHNSON, RAYMOND D.

"The Differential Surge Tank." 760.

JOHNSTON, CLARENCE T.

"Some Principles Relating to the Administration of Streams." 630.

JORGENSEN, LARS R.

Huacal Dam, Sonora, Mexico (Concrete arch dam). 609.

"The Constant-Angle Arch Dam." 685.

KELLOGG, R. C.

External corrosion of cast-iron pipe. 866.

Submerged pipe work, Portland, Ore. 1333.

KERSHAW, G. BERTRAM de B.

Sewage clarification by fine screens. 954.

KUICHLING, E.

Sewage clarification by fine screens. 1009.

LAVIS, F.

"The Gauge of Railways, with Particular Reference to those of Southern South America." 312.

Le CONTE, L. J.

High-alloy steels for bridges. 49.

Submerged pipe work, Portland, Ore. 1343.

LEE, CHARLES H.

"The Determination of Safe Yield of Underground Reservoirs of the Closed-Basin Type." 148.

LESLIE, Sir BRADFORD.

High-alloy steels for bridges. 62.

- LEWIS, JOHN H.**
Stream administration. 652.
- LUCIUS, ALBERT.**
High-alloy steels for bridges. 39.
- McBEAN, DUNCAN D.**
Subaqueous highway tunnels. 307.
- MEAD, DANIEL W.**
Performance of a reaction turbine. 1298.
- MEINZER, O. E.**
Yield of underground reservoirs. 234.
- MENSCH, L. J.**
Huacal Dam, Sonora, Mexico (Concrete arch dam). 610.
- MILLER, SPENCER.**
Hydro-electric power development. 1566.
- MITCHELL, W. E.**
Hydro-electric power development. 1569.
- MOISSEIFF, LEON S.**
High-alloy steels for bridges. 53.
- MOLITOR, DAVID A.**
High-alloy steels for bridges. 57.
- MORROW, BEN S.**
Submerged pipe work, Portland, Ore. 1326.
- MUIRHEAD, J. H. H.**
Reinforced concrete docks. 1112.
- NORRIS, GEORGE L.**
High-alloy steels for bridges. 72.
- NUGENT, PAUL C.**
Nomographic solutions for formulas. 1386.
- OSBORNE, G. F. F.**
Gauge of railways. 433.
- O'SHAUGHNESSY, M. M.**
Huacal Dam, Sonora, Mexico (Concrete arch dam). 608.
- OWEN, JAMES.**
Yield of underground reservoirs. 219.
- PAUL, CHARLES H.**
Grouted cut-off for the Estacada Dam. 535.
- PEARSE, LANGDON.**
Sewage clarification by fine screens. 996.

- PEMOFF, JOEL J.**
Reinforced concrete docks. 1116.
- PETINOT, N.**
High-alloy steels for bridges. 49.
- PHILLIPS, W. R.**
Submerged pipe work, Portland, Ore. 1344.
- PILLSBURY, G. B.**
Klondike pipe line. 560.
- PITKETHLY, DAVID T.**
Sewage purification by fine screens. 1018.
- POLK, A. C.**
"The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." 1545.
- POTTER, ALEXANDER.**
Sewage clarification by fine screens. 986.
- PUGH, MARSHALL R.**
"External Corrosion of Cast-Iron Pipe." 806.
- PURVER, GEORGE M.**
External corrosion of cast-iron pipe. 869.
- RAMSBOTHAM, JOSHUA F.**
Grouted cut-off for the Estacada Dam. 519.
Reinforced concrete docks. 1119.
- RANDLETT, F. M.**
Submerged pipe work, Portland, Ore. 1324.
- RANDS, HAROLD A.**
"Grouted Cut-Off for the Estacada Dam." 447.
- RICHARDS, J. W.**
High-alloy steels for bridges. 78.
- RIEDEL, J. C.**
Sewage clarification by fine screens. 1018.
- RIPPEY, S. HOWARD.**
Grouted cut-off for the Estacada Dam. 483.
- ROBSON, F. T.**
Sewage clarification by fine screens. 981.
- SAYERS, E. L.**
"The Lock 12 Development of the Alabama Power Company, Coosa River, Alabama." 1545.
- SCHAEFER, HERMANN.**
Sewage clarification by fine screens. 976.

- SÉJOURNÉ, M.**
High-alloy steels for bridges. 71.
- SHERMAN, CHARLES W.**
Determination of storm-water run-off. 1170.
Huacal Dam, Sonora, Mexico (Concrete arch dam). 602.
- SKINNER, F. W.**
High-alloy steels for bridges. 54.
- SMITH, G. E. P.**
Yield of underground reservoirs. 221.
- SMITH, JAMES ALEXANDER.**
Gauge of railways. 440.
- SNYDER, GEORGE DUNCAN.**
"Subaqueous Highway Tunnels." 252.
- SOPER, GEORGE A.**
Sewage clarification by fine screens. 1033.
- SOUDER, HARRISON.**
Grouted cut-off for the Estacada Dam. 519.
- SPEAR, W. E.**
Submerged pipe work, Portland, Ore. 1339.
- STERN, EUGENE W.**
Reinforced concrete docks. 1113.
- STEVENSON, W. L.**
Sewage clarification by fine screens. 962.
- STRACHAN, R. C.**
Determination of storm-water run-off. 1165.
"Nomographic Solutions for Formulas of Various Types." 1359.
- TAFT, HARRISON S.**
"Reinforced Concrete Docks: Foreign and American Structures. Failures, Costs, and General Considerations." 1058.
- TAYLOR, H. BIRCHARD.**
Hydro-electric power development. 1556.
Performance of a reaction turbine. 1289.
- TAYLOR, ROY.**
Differential surge tank. 785.
- WADDELL, J. A. L.**
"The Possibilities in Bridge Construction by the Use of High-Alloy Steels." 1.
- WAGNER, SAMUEL TOBIAS.**
External corrosion of cast-iron pipe. 866.

- WALKER, E. G.**
Reinforced concrete docks. 1125.
- WARD, C. D.**
Submerged pipe work, Portland, Ore. 1344.
- WARREN, W. H.**
High-alloy steels for bridges. 57.
- WEBB, DeWITT C.**
Reinforced concrete docks. 1117.
- WEBSTER, D. L.**
Differential surge tank. 805.
- WEGMANN, EDWARD.**
Constant-angle arch dam. 724.
- WHEELER, WALTER S.**
Klondike pipe line. 561.
- WHIPPLE, GEORGE C.**
Sewage clarification by fine screens. 964.
- WHITE, LAZARUS.**
Grouted cut-off for the Estacada Dam. 510.
- WHITTEMORE, L. C.**
Sewage clarification by fine screens. 1004.
- WIGGIN, THOMAS H.**
Submerged pipe work, Portland, Ore. 1335.
- WILLIAMS, GARDNER S.**
Hydro-electric power development. 1571.
- WILLIAMS, J. P. J.**
Theory of concrete beams. 1267.
- WRENTMORE, C. G.**
"Report on a Series of Tests on Concrete Columns Reinforced with a Spiral of Steel." 97.
- ZOWSKI, S. J.**
Performance of a reaction turbine. 1288.

